Exhibit K

Exhibit E-8

INVALIDITY CONTENTIONS FOR U.S. PATENT NO. 7,177,369
BASED ON USP 6,252,914 ("YAMAMOTO")

Based upon Plaintiff's Complaint, Infringement Contentions, and apparent claim constructions and application of the claims to Defendant's accused products, as best as they can be deciphered, the reference charted below anticipates or at least renders obvious the asserted claims. These invalidity contentions are not an admission by the Defendant that the accused products are covered by or infringe the asserted claims, particularly when these claims are properly construed and applied. These invalidity contentions are not an admission that the Defendant concedes or acquiesces to any claim construction implied or suggested by Plaintiff's Complaint or Infringement Contentions. Nor is Defendant asserting any claim construction positions through these charts, including whether the preamble is a limitation. The portions of the prior art reference cited below are not exhaustive but are exemplary in nature.

U.S. Patent No. 6,252,914 to Yamamoto et al. ("Yamamoto") was filed on January 20, 1999, issued on June 26, 2001. This patent is prior art under at least 35 U.S.C. § 102(a)(b)(e)(g), and 103(a). As described in the following claim chart, the asserted claims of U.S. Patent No. 7,177,369 (the "'369 Patent"), are invalid as anticipated by Yamamoto.

To the extent that Yamamoto is found not to anticipate one or more of the asserted claims of the '369 Patent, these claims are invalid as obvious in view of Yamamoto alone or in combination with other prior art references disclosed in Defendant's Invalidity Contentions and accompanying charts, including without limitation as set forth below.

During prosecution, the Examiner determined that Yamamoto anticipated the pending claims – thus disclosing all of the elements of those claims. See 2006-09-20 Office Action (referenced herein as "YMM") at 2-5. Moreover, the Examiner also determined that the remaining claims were obvious over Yamamoto – thus rendering obvious all of those claim elements for those claims. See YMM at 6-9.

In response, the applicant apparently amended the claims. See 2006-09-21 Amendment (referenced herein as "YMA"). This YMA amendment strangely came the very next day after the YMM and does not mention the YMM. Also, the record shows an apparent meeting or "Teleconference August 28, 2006 with Examiner" but does not document any discussion of the art discussed in the YMM (thus showing a clear violation of PTO rules by the applicant which require a summary of any teleconference to be on the written record submitted by the applicant). See YMA at p. 20.

The applicant's amendment to claim 1 are shown below.

Exhibit E-8

1. (Currently Amended) A method comprising:

identifying at least one multipath transmission delay within a reverse path data signal received from a receiving device;

determining at least one forward path pre-equalization parameter based on said at least one transmission delay; and

modifying a forward path data signal that is to be transmitted to the receiving device based on said at least one forward path pre-equalization parameter, where said modifying includes selectively setting different transmission power levels for at least two Orthogonal Frequency Division Multiplexing (OFDM) tones in said forward path data signal.

YMA at p. 2. Notably, none of the other asserted method claims were amended to overcome Yamamoto. Thus, the underlined passages reflects the only distinction over Yamamoto. Further notably, the applicant did not argue that the Examiner's determination (that Yamamoto disclosed or rendered obvious all the other claim elements) was in error. Rather, the applicant acquiesced to the Examiner's determination on the scope and content of Yamamoto and thus is estopped from now challenging that determination.

As detailed below, Defendants rely upon the Examiner's citations in determining that Yamamoto disclosed certain elements.

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Claim 1	
1[p] A method comprising:	To the extent the preamble is limiting, Yamamoto discloses this claim limitation explicitly, inherently, or as a matter of common sense, or it would have been obvious to add missing aspects of the limitation. For example, see the following passages and/or figures, as well as all related disclosures: See YMM at 1:

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	3. Claims 1-5, 9, 11-17, 20, 22, 28, 29, 38, 40, 43-46, 50, 52-56, 58, 60, 66, 68, 77, and 79 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamamoto US patent No. 6,252,914. As per claim 1, Yamamoto discloses a method and apparatus fig. 1 and 2 comprising estimating propagation path characteristics using circuit 32 (note that by estimating the propagation path characteristics, multipath transmission delay is inherently identified or recognized because the multipath is one of the component that affect characteristics of the communication path) within a reverse path data signal received from a receiving device 2 ; determining at least one forward path pre-equalization parameter (i. e coefficients see section 51) based on said propagation path characteristics (multipath transmission delay) and filtering (modifying) using section 52 a forward path data signal that is to be transmitted to the receiving device 2 based on said coefficients (forward path pre-equalization) supplied by circuit 51. YMM at 1-2. Moreover, the Examiner also determined that many of the claim elements of the asserted claims were also obvious over Yamamoto's disclosure: 5. Claims 6-8, 10, 18-19, 21, 23-27, 30-37, 39, 41, 47-49, 51, 57, 59, 61-65, 67, 69-76, 78 and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto. YMM at 6.

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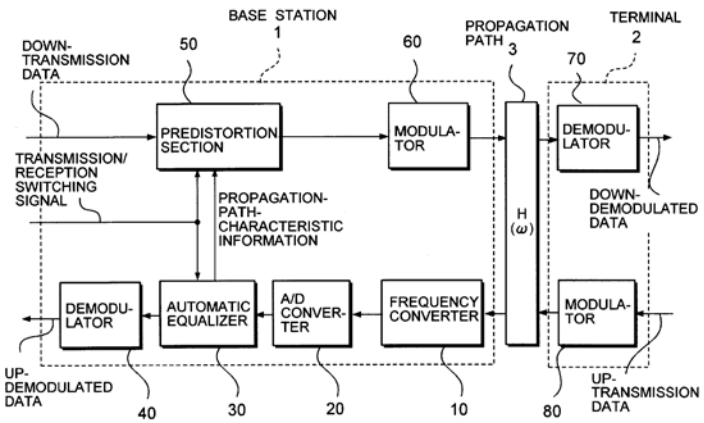
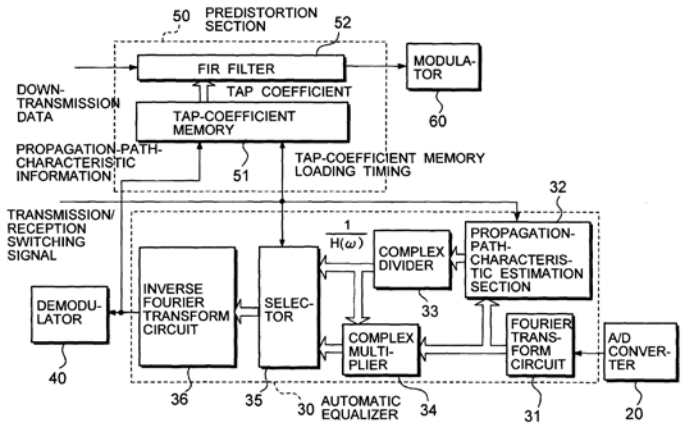
	As per the Examiner's Binding Determinations ("EBD"), Yamamoto shows FIG. 1  FIG. 2  Yamamoto at Fig. 1-2.

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	See Yamamoto at Abstract ("A radio communication system for reducing deterioration of the transmission quality due to multipath fading while downsizing a terminal and reducing the power consumption. The propagation characteristic of a propagation path 3 is estimated by an automatic equalizer 30 set in a base station 1, and the inverse characteristic of the propagation path is added to the down-transmission data to be transmitted to a terminal 2 in a predistortion section 50 in accordance with the estimation result, and the data to which the inverse characteristic of the propagation path 3 is added is transmitted to the terminal 2 through the propagation path 3 as transmission data.") See 3:33-63 ("As shown in FIG. 1, this embodiment is configured by a terminal 2 and a base station 1 connected each other through a propagation path 3, in which the terminal 2 is provided with a demodulator 70 for demodulating the down-data sent from the base station 1 through the propagation path 3 and a modulator 80 for modulating the down-data to be transmitted to the base station 1 through the propagation path 3 and the base station 1 is provided with a frequency converter 10 for frequency-converting the up-data sent from the terminal 2 through the propagation path 3 into a base band signal and outputting the signal, an A/D converter 20 serving as sample quantization means for sample-quantizing the base band signal outputted from the frequency converter 10, an automatic equalizer 30 for equalizing distortions of the propagation path 3 about the base band signal sample-quantized by the A/D converter 20, estimating the characteristic of the propagation path 3 in accordance with the base band signal sample-quantized by the A/D converter 20, and outputting the estimation result as propagation-path-characteristic information, a demodulator 40 for demodulating the base band signal whose distortions are equalized by the automatic equalizer 30, a predistortion section 50 for adding the inverse characteristic of the propagation path 3 to down-transmission data in accordance with the propagation-path-characteristic information outputted from the automatic equalizer 30, and a modulator 60 for modulating the down-transmission data to which the inverse characteristic of the propagation path 3 is added by the predistortion section 50.") See 3:63-4:40 ("FIG. 2 is an illustration showing the configuration of the automatic equalizer 30 and the predistortion section 50 shown in FIG. 1. As shown in FIG. 2, the automatic equalizer 30 of this embodiment is configured by a Fourier transform circuit 31 for transforming a base band signal sample-quantized by the A/D converter 20 into a frequency-region signal and outputting the signal; a propagation-path-characteristic estimation section 32 to which frequency-region signals outputted from the Fourier transform circuit 31 are inputted to estimate a reference signal for

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	estimating the transfer function of the propagation path 3 in accordance with a signal corresponding to a reference signal for estimating a known propagation path characteristic regularly inserted into the up-data sent from the terminal 2 and a frequency-region signal corresponding to the reference signal among the frequency-region signals outputted from the Fourier transform circuit 31 and moreover, estimate the propagation-path characteristic H (ω) of the propagation path 3; a complex divider 33 for computing the inverse characteristic 1/H (ω) of the propagation-path characteristic H (ω) estimated by the propagation path-characteristic estimation section 32 by applying complex division to the propagation-path characteristic H (ω) estimated by the propagation path-characteristic estimation section 32; a complex multiplier 34 for multiplying the frequency-region signals outputted from the Fourier transform circuit 31 with the inverse characteristic 1/H (ω) of the propagation path 3 computed by the complex divider 33 and thereby, equalizing distortions of the propagation path 3; a selector 35 serving as selection means for outputting a signal whose distortions are equalized by the complex multiplier 34 when receiving up-data from the terminal 2 and outputting the inverse characteristic 1/H (ω) of the propagation path 3 computed by the complex divider 33 after receiving the up-data, in accordance with a transmission/reception switching signal inputted from an external unit; and an inverse Fourier transform circuit 36 for inverse-Fourier-transforming a signal whose distortions are equalized by the complex multiplier 34 when the signal is inputted and outputting the signal to the demodulator 40 as a time-region signal, applying inverse Fourier transform to the inverse characteristic 1/H (ω) of the propagation path 3 computed by the complex divider 33 when the inverse characteristic 1/H (ω) is inputted, thereby computing an impulse response, and outputting the computation result to the predistortion section 50.") See 4:41-64 ("Moreover, as shown in FIG. 2, the predistortion section 50 of this embodiment is configured by a tap-coefficient memory 51 serving as storage means for storing the impulse response of the inverse characteristic 1/H (ω) of the propagation path 3 output from the inverse Fourier transform circuit 36 at the timing after receiving the up-data transmitted from the terminal 2, in accordance with a transmission/reception switching signal inputted from an external unit and an FIR filter 52 serving as inverse characteristic addition means for performing the convolutional operation between down-transmission data to be transmitted to the terminal 2 and the impulse response of the inverse characteristic 1/H (ω) of the propagation path 3 by using the impulse response stored in the tap coefficient memory 51 as a tap coefficient and adding the inverse characteristic of the propagation path 3 to the down-transmission data. In this case, when a modulation method uses the QPSK method, the data inputted to the FIR filter 52 has a binary value. Therefore, as for the multiplication between the data and the tap coefficient, it is actually only

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	necessary to set the polarity bit of the tap coefficient to a positive phase or invert the bit in accordance with the value of input data. That is, in case of the QPSK method, it is possible to form the FIR filter 52 with a simple circuit without using any multiplier.") Yamamoto shows using the reverse link channel conditions to adjust the forward link by creating a "predistortion" based on the reverse link that is then applied to the forward link. Yamamoto at 5:1-6:11 ("The up-transmission data supplied from the terminal 2 is modulated by the modulator 80 in the terminal 2 and transmitted to the base station 1 through the propagation path 3. In the base station 1, the up-data sent from the terminal 2 through the propagation path 3 is first frequency-converted into a base band signal by the frequency converter 10 and the base band signal outputted from the frequency converter 10 is sample-quantized by the A/D converter 20. Then, in the Fourier transform circuit 31 of the automatic equalizer 30, the base band signal sample-quantized by the A/D converter 10 is converted into a frequency-region signal and outputted to the propagation-path-characteristic estimation section 32 and complex multiplier 34. Then, in the propagation-path-characteristic estimation section 32, the transfer function of the propagation path 3 is estimated in accordance with a reference signal for estimating a known propagation path characteristic regularly inserted into the up-data sent from the terminal 2 and a frequency-region signal corresponding to the reference signal among the frequency-region signals outputted from the Fourier transform circuit 31 and thereby, the propagation path characteristic H(ω) of the propagation path 3 is estimated. Then, in the complex divider 33, the propagation path characteristic H (ω) estimated by the propagation-path-characteristic estimation section 32 is complex-divided and thereby, the inverse characteristic 1/H (ω) of the propagation path characteristic H (ω) estimated by the propagation-path-characteristic estimation section 32 is computed. Then, in the complex multiplier 34, frequency-region signals outputted from the Fourier transform circuit 31 are multiplied with the inverse characteristic 1/H (ω) of the propagation path 3 computed by the complex divider 33 and thereby, distortions of the propagation path 3 are equalized about the frequency-region signals outputted from the Fourier transform circuit 31. The inverse characteristic 1/H (ω) of the propagation path 3 computed by the complex divider 33 and the signals in which distortions of the propagation path 3 are equalized by the complex multiplier 34 are inputted to the selector 35.

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	In the selector 35, a signal whose distortions are equalized by the complex multiplier 34 is outputted when receiving up-data from the terminal 2 and the inverse characteristic 1/H (ω) of the propagation path 3 computed by the complex divider 33 is outputted after receiving the up-data, in accordance with a transmission/reception switching signal inputted from an external unit. Then, when a signal whose distortions are equalized by the complex multiplier 34 is inputted to the inverse Fourier transform circuit 36, the signal is inverse-Fourier-transformed and outputted to the demodulator 40 as a time-region signal, and the signal outputted from the inverse Fourier transform circuit 36 is demodulated by the demodulator 40 and outputted as up-demodulated data. When the inverse characteristic 1/H (ω) of the propagation path 3 computed by the complex divider 33 is inputted, the inverse characteristic 1/H (ω) of the propagation path 3 is inverse-Fourier-transformed and thereby, an impulse response is computed and the computed impulse response is outputted to the predistortion section 50. Then, the impulse response of the inverse characteristic 1/H (ω) of the propagation path 3 outputted from the inverse Fourier transform circuit 36 is stored in the tap-coefficient memory 51 of the predistortion section 50 at the timing after receiving the up-data transmitted from the terminal 2 in accordance with a transmission/reception switching signal inputted from an external unit. Then, in the FIR filter 52, the convolutional operation between the down-transmission data to be transmitted to the terminal 2 and the impulse response of the inverse characteristic 1/H (ω) of the propagation path 3 is performed by using the impulse response stored in the tap-coefficient memory 51 as a tap coefficient and thereby, the inverse characteristic of the propagation path 3 is added to the down-transmission data and output to the converter 60." After the predistortion is calculated, it is used to alter the downlink transmissions to the mobile devices. Yamamoto at 6:12-49 ("Then, down-transmission data to which the inverse characteristic of the propagation path 3 is added by the predistortion section 50 is modulated by the modulator 60 and the modulated down-transmission data is transmitted to the terminal 2 through the propagation path 3. Thereafter, when the down-data transmitted from the base station 1 is received by the terminal 2 through the propagation path 3, the received down-data is demodulated by the demodulator 70 in the terminal 2 and outputted as down-demodulated data.

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	As described above, in the case of this embodiment, the propagation characteristic of the propagation path 3 is estimated by the automatic equalizer 30 in the base station 1 and the inverse characteristic of the propagation path 3 is added to the down-transmission data to be transmitted to the terminal 2 in accordance with the estimation result. Therefore, even when a distortion is produced due to a multipath in the propagation path 3, the down-data transmitted from the base station 1 is correctly received by the terminal 2 and thereby, transmission quality is not deteriorated.") See claims 1-8 (all claiming the concept of using the reverse link channel conditions to calculate a predistorion which is applied to the forward link transmissions). One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Channel Estimation and OFDM Tone Modification references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
1[a] identifying at least one multipath transmission delay within a reverse path data signal received from a receiving device;	Yamamoto discloses identifying at least one multipath transmission delay within a reverse path data signal received from a receiving device. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] explaining the EBD that Yamamoto disclosed this element. See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use

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	the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See Yamamoto at Figs. 1-2. See Yamamoto at 3:33-4:64 (describing the use of the reverse link (up-link) data signal to calculate a predistortion factor to be applied to the downlink). See Yamamoto at 5:1-6:11 (describing the specific predistortion calculations for the predistortion to be applied to the downlink transmissions). See claim 1, 5, 6, 7, 8 (all elements which are calculating the predistortion factor); One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Channel Estimation references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
1[b] determining at least one forward path pre-equalization parameter based on said at least one transmission delay; and	Yamamoto discloses determining at least one forward path pre-equalization parameter based on said at least one transmission delay. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal.

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	See discussion in 1[p] explaining the EBD that Yamamoto disclosed this element. See Yamamoto at Figs. 1-2. See Yamamoto at 3:33-4:64 (describing the use of the reverse link (up-link) data signal to calculate a predistortion factor to be applied to the downlink). See Yamamoto at 5:1-6:11 (describing the specific predistortion calculations for the predistortion to be applied to the downlink transmissions). See claim 1, 5, 6, 7, 8 (all elements which are calculating the predistortion factor); One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Channel Estimation references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
1[c] modifying a forward path data signal that is to be transmitted to the receiving device based on said at least one forward path pre-equalization parameter, where said modifying	Yamamoto discloses modifying a forward path data signal that is to be transmitted to the receiving device based on said at least one forward path pre-equalization parameter, where said modifying includes selectively setting different transmission power levels for at least two Orthogonal Frequency Division Multiplexing (OFDM) tones in said forward path data signal. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal.

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includes selectively setting different transmission power levels for at least two Orthogonal Frequency Division Multiplexing (OFDM) tones in said forward path data signal.	See discussion in 1[p] explaining the EBD that Yamamoto disclosed this element. See Yamamoto at Figs. 1-2. After the predistortion is calculated, it is used to alter the downlink transmissions to the mobile devices over the forward path. Yamamoto at 6:12-49 ("Then, down-transmission data to which the inverse characteristic of the propagation path 3 is added by the predistortion section 50 is modulated by the modulator 60 and the modulated down-transmission data is transmitted to the terminal 2 through the propagation path 3. Thereafter, when the down-data transmitted from the base station 1 is received by the terminal 2 through the propagation path 3, the received down-data is demodulated by the demodulator 70 in the terminal 2 and outputted as down-demodulated data. As described above, in the case of this embodiment, the propagation characteristic of the propagation path 3 is estimated by the automatic equalizer 30 in the base station 1 and the inverse characteristic of the propagation path 3 is added to the down-transmission data to be transmitted to the terminal 2 in accordance with the estimation result. Therefore, even when a distortion is produced due to a multipath in the propagation path 3, the down-data transmitted from the base station 1 is correctly received by the terminal 2 and thereby, transmission quality is not deteriorated.") See claims 2-4 (claiming the application of the distortion factor to the data transmitted). One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base

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	invalidity contention document discussing the OFDM Tone Modification references Rather than repeat those disclosures here, they are incorporated by reference into this chart.
2. The method as recited in claim 1, further comprising: receiving said reverse path data signal over at least one reverse transmission path.	Yamamoto discloses receiving said reverse path data signal over at least one reverse transmission path. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto disclosed this element. As per claim 2, the reverse path data signal is received over at least one reverse path 3 see fig. 1. YMM at 3. The reverse path is characterized, for example, as the "up-data" which is transmitted from the "terminal" with the "down-data" transmitted by the "base station") See 3:33-63 ("As shown in FIG. 1, this embodiment is configured by a terminal 2 and a base station 1 connected each other through a propagation path 3, in which **the terminal 2 is provided with a demodulator 70 for demodulating the down-data sent from the base station** 1 through the propagation path 3 and a modulator 80 for modulating the down-data to be transmitted to the base station 1 through the propagation path 3 and **the base station 1 is provided with a frequency converter 10 for frequency-converting the up-data sent from the terminal 2 t**hrough the propagation path 3 into a base band signal and outputting the signal, an A/D converter 20 serving as sample quantization means for sample-quantizing the base band signal outputted from the frequency converter 10, an automatic equalizer 30 for equalizing distortions of the propagation path 3 about the base band signal sample-quantized by the A/D converter 20, estimating the characteristic of the

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	propagation path 3 in accordance with the base band signal sample-quantized by the A/D converter 20, and outputting the estimation result as propagation-path-characteristic information, a demodulator 40 for demodulating the base band signal whose distortions are equalized by the automatic equalizer 30, a predistortion section 50 for adding the inverse characteristic of the propagation path 3 to down-transmission data in accordance with the propagation-path-characteristic information outputted from the automatic equalizer 30, and a modulator 60 for modulating the down-transmission data to which the inverse characteristic of the propagation path 3 is added by the predistortion section 50.") One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Channel Estimation references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
3. The method as recited in claim 2, further comprising: transmitting said modified forward path data signal over at least one forward transmission path.	Yamamoto discloses transmitting said modified forward path data signal over at least one forward transmission path. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto disclosed this element.

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	As per claim 3, the modified forward data signal (i.e. output of circuit 50) is transmitted over at least one forward transmission path 3 see fig. 1. YMM at 3. After the predistortion is calculated, it is used to alter the downlink transmissions to the mobile devices over the forward path. Yamamoto at 6:12-49 ("Then, down-transmission data to which the inverse characteristic of the propagation path 3 is added by the predistortion section 50 is modulated by the modulator 60 and the modulated down-transmission data is transmitted to the terminal 2 through the propagation path 3. Thereafter, when the down-data transmitted from the base station 1 is received by the terminal 2 through the propagation path 3, the received down-data is demodulated by the demodulator 70 in the terminal 2 and outputted as down-demodulated data. As described above, in the case of this embodiment, the propagation characteristic of the propagation path 3 is estimated by the automatic equalizer 30 in the base station 1 and the inverse characteristic of the propagation path 3 is added to the down-transmission data to be transmitted to the terminal 2 in accordance with the estimation result. Therefore, even when a distortion is produced due to a multipath in the propagation path 3, the down-data transmitted from the base station 1 is correctly received by the terminal 2 and thereby, transmission quality is not deteriorated.") One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the OFDM Tone Modification references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.

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4. The method as recited in claim 1, wherein said reverse path data signal includes at least one type of data selected from a group of different types of data comprising Orthogonal Frequency Division Multiplexing (OFDM) data and Quadrature Phase Shift Keying (QPSK) data.	Yamamoto discloses wherein said reverse path data signal includes at least one type of data selected from a group of different types of data comprising Orthogonal Frequency Division Multiplexing (OFDM) data and Quadrature Phase Shift Keying (QPSK) data. See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] explaining the EBD that Yamamoto disclosed this element. As per claim 4, Yamamoto teaches a QPSK modulation scheme is used at the forward path, the reverse path has to use the same type of modulation as well. see col. 4, lines 57-64. YMM at 3. See 4:41-64 ("Moreover, as shown in FIG. 2, the predistortion section 50 of this embodiment is configured by a tap-coefficient memory 51 serving as storage means for storing the impulse response of the inverse characteristic 1/H (ω) of the propagation path 3 output from the inverse Fourier transform circuit 36 at the timing after receiving the up-data transmitted from the terminal 2, in accordance with a transmission/reception switching signal inputted from an external unit and an FIR filter 52 serving as inverse characteristic addition means for performing the convolutional operation between down-transmission data to be transmitted to the terminal 2 and the impulse response of the inverse characteristic 1/H (ω) of the propagation path 3 by using the impulse response stored in the tap coefficient memory 51 as a tap coefficient and adding the inverse characteristic of the propagation path 3 to the down-transmission data. In this case, when a modulation method uses the QPSK method, the data inputted to the FIR filter 52 has a binary value. Therefore, as for the multiplication between the data and the tap coefficient, it is actually only

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	necessary to set the polarity bit of the tap coefficient to a positive phase or invert the bit in accordance with the value of input data. That is, in case of the QPSK method, it is possible to form the FIR filter 52 with a simple circuit without using any multiplier.") One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the QPSK Usage references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
5. The method as recited in claim 1, wherein said modified forward path data signal includes at least one type of data selected from a group of different types of data comprising Orthogonal Frequency Division Multiplexing (OFDM) data and Quadrature Phase	Yamamoto discloses The method as recited in claim 1, wherein said modified forward path data signal includes at least one type of data selected from a group of different types of data comprising Orthogonal Frequency Division Multiplexing (OFDM) data and Quadrature Phase Shift Keying (QPSK) data. For example, see the following passages and/or figures, as well as all related disclosures: See claim 4 See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. Yamamoto uses the same type of transmission on both paths. See discussion in 1[p] explaining the EBD that Yamamoto disclosed this element.

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Shift Keying (QPSK) data.	As per claim 5, the forward path includes at least one type of data selected from QPSK see col. 4, lines 57-64. YMM at 3 See 4:41-64 ("Moreover, as shown in FIG. 2, the predistortion section 50 of this embodiment is configured by a tap-coefficient memory 51 serving as storage means for storing the impulse response of the inverse characteristic 1/H (ω) of the propagation path 3 output from the inverse Fourier transform circuit 36 at the timing after receiving the up-data transmitted from the terminal 2, in accordance with a transmission/reception switching signal inputted from an external unit and an FIR filter 52 serving as inverse characteristic addition means for performing the convolutional operation between down-transmission data to be transmitted to the terminal 2 and the impulse response of the inverse characteristic 1/H (ω) of the propagation path 3 by using the impulse response stored in the tap coefficient memory 51 as a tap coefficient and adding the inverse characteristic of the propagation path 3 to the down-transmission data. In this case, when a modulation method uses the QPSK method, the data inputted to the FIR filter 52 has a binary value. Therefore, as for the multiplication between the data and the tap coefficient, it is actually only necessary to set the polarity bit of the tap coefficient to a positive phase or invert the bit in accordance with the value of input data. That is, in case of the QPSK method, it is possible to form the FIR filter 52 with a simple circuit without using any multiplier.") One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the QPSK Usage references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.

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6. The method as recited in claim 5, wherein said modified forward path data signal includes sub-carrier pre-equalized OFDM data.	Yamamoto discloses wherein said modified forward path data signal includes sub-carrier pre-equalized OFDM data. For example, see the following passages and/or figures, as well as all related disclosures: See claim 5. See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. Yamamoto uses the same type of transmission on both paths. See discussion in 1[p] explaining the EBD that Yamamoto rendered this element obvious. As per claim 6, as applied to claim 1 above, Yamamoto discloses every feature of the claimed invention but does not explicitly teach that the signal includes subcarrier pre-equalized OFDM data. However, modifying the signal to include subcarrier pre-equalized OFDM data would have been obvious to one of ordinary skill in the art and the motivation to do so would have been to provide compatibility with systems that uses OFDM modulation scheme.

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	YMM at 6. One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the OFDM Tone Modification references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
7. The method as recited in claim 6, further comprising: generating corresponding Quadrature Phase Shift Keying (QPSK) modulation values based on said sub-carrier pre-equalized OFDM data.	Yamamoto discloses generating corresponding Quadrature Phase Shift Keying (QPSK) modulation values based on said sub-carrier pre-equalized OFDM data. For example, see the following passages and/or figures, as well as all related disclosures: See claim 5. See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. Yamamoto uses the same type of transmission on both paths.

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	See discussion in 1[p] explaining the EBD that Yamamoto rendered this element obvious. As per claim 7, it would have been obvious to use OFDM data to generate QPSK modulation values so as to provide compatibility with systems that uses QPSK modulation scheme. YMM at 6. One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the QPSK Usage and OFDM Tone Modification references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
9. The method as recited in claim 1, wherein said reverse path data signal includes identifiable training data.	Yamamoto discloses The method as recited in claim 1, wherein said reverse path data signal includes identifiable training data. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto disclosed this element.

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	As per claim 9, said reverse path data signal includes reference signal (identifiable training data) see col. 2, line8-10. YMM at 3. Moreover, the use of the "reference signal" discloses this element to a POSITA that would recognize this as a signal that includes identifiable training data to use as a "reference." This is particularly true because of the repeated citations (below of a "a reference signal for estimating a known propagation path characteristic regularly inserted into the up-data sent from the terminal 2" See Yamamoto at 2:2-10 ("a propagation-path-characteristic estimation section to which frequency-region signals output from the Fourier transform circuit are input to estimate the transfer function of the propagation path in accordance with a reference signal regularly inserted into the data sent from the terminal and a signal corresponding to the reference signal among the frequency-region signals output from the Fourier transform circuit and moreover, estimate the propagation path characteristic of the propagation path;") 4:2-11("a propagation-path-characteristic estimation section 32 to which frequency-region signals outputted from the Fourier transform circuit 31 are inputted to estimate a reference signal for estimating the transfer function of the propagation path 3 in accordance with a signal corresponding to a reference signal for estimating a known propagation path characteristic regularly inserted into the up-data sent from the terminal 2 and a frequency-region signal corresponding to the reference signal among the frequency-region signals outputted from the Fourier transform circuit 31") 5:16-24 ("Then, in the propagation-path-characteristic estimation section 32, the transfer function of the propagation path 3 is estimated in accordance with a reference signal for estimating a known propagation path characteristic regularly inserted into the up-data sent from the terminal 2 and a frequency-region signal corresponding to the reference signal among the frequency-region signals outputted from the Fourier transform circuit 31 and thereby, the propagation path characteristic H(ω) of the propagation path 3 is estimated.") See claim 8 (reference signal).

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	One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Training Data references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
10. The method as recited in claim 9, further comprising: comparing said identifiable training data to a local version of said training data to identify said at least one multipath transmission delay within said reverse path data signal.	Yamamoto discloses comparing said identifiable training data to a local version of said training data to identify said at least one multipath transmission delay within said reverse path data signal. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto rendered this element obvious. As per claim 10, it is known in the art to compare a received training sequence with a local training sequence so as to provide proper indication of transmission medium. YMM at 6.

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	Moreover, the use of the "reference signal" discloses this element to a POSITA that would recognize this as a signal that includes identifiable training data to use as a "reference." Thus, this claim is not just obvious over Yamamoto but actually disclosed by Yamamoto. This is particularly true because of the repeated citations (below of a "a reference signal for estimating a known propagation path characteristic regularly inserted into the up-data sent from the terminal 2" See Yamamoto at 2:2-10 ("a propagation-path-characteristic estimation section to which frequency-region signals output from the Fourier transform circuit are input to estimate the transfer function of the propagation path in accordance with a reference signal regularly inserted into the data sent from the terminal and a signal corresponding to the reference signal among the frequency-region signals output from the Fourier transform circuit and moreover, estimate the propagation path characteristic of the propagation path;") 4:2-11("a propagation-path-characteristic estimation section 32 to which frequency-region signals outputted from the Fourier transform circuit 31 are inputted to estimate a reference signal for estimating the transfer function of the propagation path 3 in accordance with a signal corresponding to a reference signal for estimating a known propagation path characteristic regularly inserted into the up-data sent from the terminal 2 and a frequency-region signal corresponding to the reference signal among the frequency-region signals outputted from the Fourier transform circuit 31") 5:16-24 ("Then, in the propagation-path-characteristic estimation section 32, the transfer function of the propagation path 3 is estimated in accordance with a reference signal for estimating a known propagation path characteristic regularly inserted into the up-data sent from the terminal 2 and a frequency-region signal corresponding to the reference signal among the frequency-region signals outputted from the Fourier transform circuit 31 and thereby, the propagation path characteristic H(ω) of the propagation path 3 is estimated.") See claim 8 (reference signal). One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly,

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	implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Training Data references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
12. The method as recited in claim 3, wherein said at least one reverse transmission path is substantially reciprocal to said at least one forward transmission path.	Yamamoto discloses wherein said at least one reverse transmission path is substantially reciprocal to said at least one forward transmission path. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto disclosed this element. As per claim 12, the reverse path is the reciprocal of the forward path see col. 2, lines 35-49. YMM at 3. Yamamoto at 2:35-49 ("Furthermore, the predistortion section is characterized by comprising storage means for storing the inverse characteristic of the propagation path as a tap coefficient at the timing when the base station completes the reception of the data transmitted from the terminal, and the inverse characteristic addition means is characterized by performing the convolutional operation between the inverse characteristic of the propagation path stored in the storage means as a tap coefficient and the data to

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	be transmitted to the terminal and by adding the inverse characteristic of the propagation path to the data to be transmitted to the terminal.") See discussion of 1[p], 1[a], 1[b] describing that the base station is a transmitting device (e.g., for the downlink OFDM symbols) and that it also determines the pre-equalization parameter and performs the modification of the forward path (downlink) data signal based on the reverse link. Yamamoto references this reciprocity as the "inverse" such as the "inverse characteristic of the propagation path" throughout the citations in 1[p]. See claims 1, 2-4, 5, 6, 7, 8. Moreover, the fact that Yamamoto shows only a single "propagation path" through which the reverse and forward link data signals are transmitted further teaches the concept of the reciprocal paths in this claim element. See Figs. 1, 2 and all citations in 1[p] referencing the propagation path. Indeed, the '369 acknowledges that reciprocity was already well-known prior to the '369 patent, particularly for TDD channels. See '369 patent at 7:22-34 ("**As is well known**, many materials are electromagnetically isotropic, which is a property resulting from symmetry in their associated permittivity and permeability tensors. The Lorentz Reciprocity Theorem applies to such materials. Refraction and dielectric reflection from materials therefore often show reciprocity, or equivalence of forward and reverse channel characteristics. Diffraction and reflection are inherently reciprocal due to the minimal media affecting the electromagnetic wave. Thus, reciprocity can be used to determine channel characteristics that are used while pre-equalizing a transmitted path. The use of a reciprocal channel is very useful, for example, when Time Division Duplex (TDD) channels are implemented."). One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base

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	invalidity contention document discussing the Channel Estimation references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
13. The method as recited in claim 1, wherein identifying said at least one multipath transmission delay, determining said at least one forward path pre-equalization parameter, and modifying said forward path data signal are performed by a transmitting device.	Yamamoto discloses wherein identifying said at least one multipath transmission delay, determining said at least one forward path pre-equalization parameter, and modifying said forward path data signal are performed by a transmitting device. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto disclosed this element. As per claim 13, the steps recited in claim 1 are performed at the transmitting device 1. As per claim 14, the transmitting device includes a base station for use inherently in wireless transmission see fig. 1. YMM at 4. Yamamoto expressly teaches that its steps for predistortion occur at the base station which is a transmitting device. See citations in 1[p]. One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly,

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	implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Channel Estimation and OFDM Tone Modification references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
14. The method as recited in claim 13, wherein said transmitting device includes a base station device that is operatively configured for use in a wireless communication system.	Yamamoto discloses wherein said transmitting device includes a base station device that is operatively configured for use in a wireless communication system. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto disclosed this element. As per claim 13, the steps recited in claim 1 are performed at the transmitting device 1. As per claim 14, the transmitting device includes a base station for use inherently in wireless transmission see fig. 1. YMM at 4. Yamamoto expressly teaches that its steps for predistortion occur at the base station which is a transmitting device. See citations in 1[p].

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	One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Channel Estimation and OFDM Tone Modification references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
15. The method as recited in claim 13, further comprising: using at least one transmitting device receive antenna operatively coupled to said transmitting device to receive said reverse path data signal over at least one reverse transmission path from the receiving device.	Yamamoto discloses using at least one transmitting device receive antenna operatively coupled to said transmitting device to receive said reverse path data signal over at least one reverse transmission path from the receiving device. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto disclosed this element. As per claim 15, the transmitting device 1 inherently includes an antenna coupled thereto to receive data signal from the receiving device 2. YMM at 4.

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	Yamamoto teaches wireless transmissions from a base station to a terminal. This teaches or renders obvious that the base station has one or more antennas to be used for receiving the "up-data" from the terminal and transmitting the "down-data" to the terminal. One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Antenna Arrays references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
19. The method as recited in claim 15, wherein said transmitting device is operatively coupled to a plurality of first device receive antennas.	Yamamoto discloses wherein said transmitting device is operatively coupled to a plurality of first device receive antennas. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto rendered this element obvious. As per claim 19, it would have been obvious to couple the device with a plurality of antenna to enhance signal detection. YMM at 6.

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	One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Antenna Arrays references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
21. The method as recited in claim 15, wherein determining said at least one forward path pre-equalization parameter based on said at least one transmission delay further includes: determining at least one angle of arrival of said reverse path data signal with respect to said at least one transmitting	Yamamoto discloses wherein determining said at least one forward path pre-equalization parameter based on said at least one transmission delay further includes: determining at least one angle of arrival of said reverse path data signal with respect to said at least one transmitting device receive antenna. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto rendered this element obvious. As per claim 21, it would have been obvious to one skill in the art to determine at least one angle of arrival of said reverse path with respect to said receive antenna so as to so as to detect delays associated with the received signal. YMM at 7.

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device receive antenna.	One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Antenna Arrays references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
28. The method as recited in claim 13, further comprising: using at least one transmitting device transmit antenna operatively coupled to said transmitting device to transmit said modified forward path data signal over at least one forward transmission path to the receiving device.	Yamamoto discloses using at least one transmitting device transmit antenna operatively coupled to said transmitting device to transmit said modified forward path data signal over at least one forward transmission path to the receiving device. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See claim 15. See discussion in 1[p] explaining the EBD that Yamamoto disclosed this element. As per claim 28, see claim 15. YMM at 4.

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	Yamamoto teaches wireless transmissions from a base station to a terminal. This teaches or renders obvious that the base station has one or more antennas to be used for receiving the "up-data" from the terminal and transmitting the "down-data" to the terminal. One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Antenna Arrays references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
32. The method as recited in claim 28, further comprising: setting at least one antenna pointing parameter associated with said at least one transmitting device transmit antenna based on said at least one forward path pre-equalization parameter.	Yamamoto discloses setting at least one antenna pointing parameter associated with said at least one transmitting device transmit antenna based on said at least one forward path pre-equalization parameter. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto rendered this element obvious. As per claims 32 and 33, it would have been obvious to one skill in the art to set at least one antenna pointing parameter or phase array associated with said transmit antenna based on the pre-equalization parameter so as to improve signal detection. YMM at 7.

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	One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Antenna Arrays references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
33. The method as recited in claim 28, further comprising: setting at least one phased array antenna transmission directing parameter associated with said at least one transmitting device transmit antenna based on said at least one forward path pre-equalization parameter.	Yamamoto discloses setting at least one phased array antenna transmission directing parameter associated with said at least one transmitting device transmit antenna based on said at least one forward path pre-equalization parameter. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto rendered this element obvious. As per claims 32 and 33, it would have been obvious to one skill in the art to set at least one antenna pointing parameter or phase array associated with said transmit antenna based on the pre-equalization parameter so as to improve signal detection. YMM at 7.

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	One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Antenna Arrays references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
35. The method as recited in claim 28, further comprising: selecting said at least one transmitting device transmit antenna from a plurality of transmitting device transmit antennas that are each operatively coupled to said transmitting device.	Yamamoto discloses selecting said at least one transmitting device transmit antenna from a plurality of transmitting device transmit antennas that are each operatively coupled to said transmitting device. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto rendered this element obvious. As per claim 35, it would have been obvious to one skill in the art to select one antenna from a plurality of antenna to improve system flexibility. YMM at 8. One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly,

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	implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Antenna Arrays references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
36. The method as recited in claim 35, further comprising: selectively transmitting a plurality of beams using two or more transmitting device transmit antennas.	Yamamoto discloses selectively transmitting a plurality of beams using two or more transmitting device transmit antennas. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto rendered this element obvious. As per claim 36, it would have been obvious to one skill in the art to selectively transmit a plurality of beam using at least two transmit antenna in order to improve signal detection. YMM at 8. One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art.

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	Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base invalidity contention document discussing the Antenna Arrays references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
37. The method as recited in claim 36, wherein each of said transmitted plurality of beams is selectively adjusted in phase and amplitude to reduce multipath affects when received by said receiving device.	Yamamoto discloses wherein each of said transmitted plurality of beams is selectively adjusted in phase and amplitude to reduce multipath affects when received by said receiving device. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto rendered this element obvious. As per claim 37 it would have been obvious to one skill in the art to adjust the plurality of beams in amplitude and in phase so as to improve signal detection. YMM at 8. One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base

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	invalidity contention document discussing the Antenna Arrays references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.
41. The method as recited in claim 1, wherein determining said at least one forward path pre-equalization parameter based on said at least one transmission delay further includes: sub-band equalizing said forward path data signal using corresponding frequency domain reverse path data.	Yamamoto discloses wherein determining said at least one forward path pre-equalization parameter based on said at least one transmission delay further includes: sub-band equalizing said forward path data signal using corresponding frequency domain reverse path data. For example, see the following passages and/or figures, as well as all related disclosures: See discussion in 1[p] regarding the operation of Yamamoto to receive "up-data" on the reverse link, use that "up-data" transmission receipt to calculate a predistortion application to the "propagation path" and then use the predistortion to modify the transmission of the "down-data" along the forward path from the base station to the terminal. See discussion in 1[p] explaining the EBD that Yamamoto rendered this element obvious. As per claim 41, it would have been obvious to one skill in the art to subband equalize said forward path using corresponding reverse path data so as to remove interference. YMM at 8. One of ordinary skill would find this limitation disclosed either expressly or inherently in the teachings of this reference and its incorporated disclosures taken as a whole, or in combination with the state of the art at the time of the alleged invention. To the extent this reference is not found to teach this element explicitly, implicitly, or inherently, the element would have been obvious to one of ordinary skill in the art based on this reference, common sense, ordinary creativity of one of ordinary skill in the art, and the state of the art. Additionally, it would have been obvious to combine this reference with one or more other prior art references identified in Defendants' Invalidity Contentions Cover Pleading, particularly, the passages in the base

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	invalidity contention document discussing the Channel Estimation and OFDM Tone Modification references. Rather than repeat those disclosures here, they are incorporated by reference into this chart.